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EXAMINER	
BRIER, JEFFERY A	
ART UNIT	**PAPER NUMBER**
2672	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/964,359	TANAKA ET AL.	
	Examiner	Art Unit	
	Jeffery A Brier	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *23-45 and 47-69* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-45 and 47-69* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 1/13/2005 has been entered.

Response to Amendment

2. The amendment filed on 1/13/2005 has been entered. It is noted claims 48-69 correspond to original patent claims 1-22.

Response to Arguments

3. Applicants arguments filed on 1/13/2005 at pages 16 and 18 concerning the Offer to Surrender Patent filed 02/26/04 have been fully considered and they are deemed to persuasive because 37 CFR 1.178 has been amended to make surrender automatic. The following is from a year 2004 new rules training slide.

- The reissue requirement for physical surrender of the original ("ribbon") patent has been eliminated. § 1.178.
- ✓Surrender is automatic upon grant of the reissue patent.
- ✓Effective date: September 21, 2004, and the revision applies retroactively to all pending reissue applications.

4. Applicants arguments filed on 1/13/2005 concerning claim 24 at pages 16 and 18 is noted. Amended claim 24 claims wherein said at least one driver circuit is made of a separate member from said pair of substrates. Amended claim 24 overcomes the new matter and 112 rejections of this claim.

5. Applicants arguments filed on 1/13/2005 concerning the recapture rejection at pages 17 and 18 to 19 have been fully considered but they are not persuasive because applicant makes reference to only Eggert. The office follows Pannu and Eggert. Eggert at page 1719 teaches the claims cannot be broader than the claims which were narrowed to overcome the rejection. At page 1719 the court wrote:

> For example, if an outer circle claim contains elements ABC and the inner circle claim contains elements ABCDEF, a reissue applicant cannot recapture a claim directed to elements ABC (outer circle) or a claim entirely outside the outer circle (e.g., AB, BC, ABCBR2, etc.). However, it is our view that the reissue recapture rule is not invoked for claims directed to elements ABCX, ABCDBR, ABCEF, ABRBCDEF. In other words, the focus for determining the reach of the reissue recapture rule should be the claim from which the issued claimed directly evolved, not the issued claim itself. We believe that this is where we and the members of the dissent disagree.

A review of claims 23-45 and 47 shows these claims are broader than the claims which were amended to overcome the rejection (Claim 1 of 08/507,990 filed in the 09/08/95 preliminary amendment was amended in the 11/07/97 amendment to overcome prior art rejections.). Therefore these claims are claims entirely outside the "outer circle" which according to Eggert cannot be recaptured in a reissue. At the end of the office action

are copies of claims form 08/507,990. Claim 1 was filed in the preliminary amendment

and claims 22 and 24 were filed in the 11/7/1997 amendment

Claim 1 from 08/507,990 filed in the preliminary amendment filed on 9/8/95.

1. (amended) A liquid crystal display apparatus, comprising:
a pair of substrates, at least one of which is transparent ;
a liquid crystal layer formed by enclosing a liquid crystal composition between said pair of substrates;
a display region, having a plurality of first semiconductor elements which are arranged in a matrix is formed on a substrate;
a peripheral circuits region having a plurality of second semiconductor elements for driving said plurality of first semiconductor elements, arranged At a periphery of said display region, are formed on said one substrate of said pair of substrates; and
at least one driver circuit for driving said peripheral circuits bonded at a designated region on the other substrate of said pair of substrates.

Claim 1 from 08/507,990 was cancelled in the amendment filed on 11/7/97 and replaced

by independent claims 22 and 24.

Claim 22 now patented claim 1:

22. A liquid crystal display apparatus, comprising:
a pair of substrates, at least one of which is transparent;
a liquid crystal layer formed by enclosing a liquid crystal composition between said pair of substrates;
a display region having a plurality of first semiconductor elements which are arranged in a matrix on one substrate of said pair of substrates;
peripheral circuits having a plurality of second semiconductor elements for driving said plurality of first semiconductor elements, arranged at a periphery of said display region, said peripheral circuits are formed on said one substrate of said pair of substrates and at least a part of said peripheral circuit are arranged in a peripheral circuits region which is held between said pair of substrates; and
at least one driver circuit which is an integrated circuit for driving said peripheral circuits is formed on said one substrate of said pair of substrates in a driver integrated circuit region which is not held between said pair of substrates.

Claim 24 now patented claim 22:

24. A liquid crystal display apparatus comprising:

a pair of substrates, at least one of which is transparent;

a liquid crystal layer formed by enclosing a liquid crystal composition between said pair of substrates;

a display region, having a plurality of first semiconductor elements which are arranged in a matrix is formed on one substrate;

a peripheral circuits region having a plurality of second semiconductor elements for driving said plurality of first semiconductor elements, arranged at a periphery of said display region, are formed on said one substrate of said pair of substrates;

at least one driver circuit for driving said peripheral circuits bonded at a designated region on said one substrate of said pair of substrates;

wherein said first and second semiconductor elements are thin film transistors; and the thin film transistors at said display region have a switching time in a range from 30 us to 60 us;

the thin film transistors at said peripheral circuit region have a switching time in a range of 3 us to 12 us; and

said driver circuit has a transistor having a switching time in a range from 0.01 us to 0.03 us.

Pending claims 23, 32, 38, and 42.

23. (previously presented) A liquid crystal display apparatus comprising:

a pair of substrates, at least one of which is transparent;

a liquid crystal layer formed by sandwiching a liquid crystal composition between said pair of substrates;

a display region having a plurality of first semiconductor elements which are arranged in a matrix on one substrate of said pair of substrates;

at least one peripheral circuit having a plurality of second semiconductor elements arranged at a periphery of said display region, said at least one peripheral circuit being formed on said one substrate of said pair of substrates and at least one part of said at least one peripheral circuit being arranged in a peripheral circuit region which is held between said pair of substrates; and

at least one driver circuit which is electrically connected to said at least one peripheral circuit for driving said at least one peripheral circuit being arranged outside of a region which is held between said pair of substrates.

32. (previously presented) A liquid crystal display apparatus comprising:

a pair of substrates, at least one of which is transparent;

a liquid crystal layer formed by sandwiching a liquid crystal composition between said pair of substrates;

a display region having a plurality of semiconductor elements arranged in a matrix on one substrate of said pair of substrates;

an image signal peripheral circuit which comprises a switch matrix circuit connected to said display region on one substrate of said pair of substrates; and

at least one driver circuit electrically connected to said image signal peripheral circuit.

38. (previously presented) A liquid crystal display apparatus comprising:

a pair of substrates, at least one of which is transparent;

a liquid crystal layer formed by enclosing a liquid crystal composition between said pair of substrates;

a display region having a plurality of semiconductor elements arranged in a matrix form on one substrate of said pair of substrates;

at least one image signal peripheral circuit having a switch matrix circuit connected to said display region; and

at least one driver circuit, including at least one display information generating circuit, electrically connected to said at least one image signal peripheral circuit.

42. (previously presented) A liquid crystal display apparatus comprising:

a pair of substrates, at least one of which is transparent;

a liquid crystal layer formed by sandwiching a liquid crystal composition between said pair of substrates;

a display region having a plurality of first semiconductor elements arranged in a matrix form on one substrate of said pair of substrates; and

an image signal peripheral circuit having a switch matrix circuit connected to said display region;

wherein only one driver circuit is electrically connected to said image signal peripheral circuit for generating clock pulses and image signals.

Claim 1 from 08/507,990 filed in the preliminary amendment filed on 9/8/95.	Pending claim 23.
A liquid crystal display apparatus, comprising:	A liquid crystal display apparatus comprising:
a pair of substrates, at least one of which is transparent ;	a pair of substrates, at least one of which is transparent;
a liquid crystal layer formed by enclosing a liquid crystal composition between said pair of substrates;	a liquid crystal layer formed by enclosing a liquid crystal composition between said pair of substrates;

a display region, having a plurality of first semiconductor elements which are arranged in a matrix is formed on a substrate;	a display region having a plurality of first semiconductor elements which are arranged in a matrix on one substrate of said pair of substrates;
a peripheral circuits region having a plurality of second semiconductor elements for driving said plurality of first semiconductor elements, arranged at a periphery of said display region, are formed on said one substrate of said pair of substrates; and	peripheral circuits having a plurality of second semiconductor elements for driving said plurality of first semiconductor elements, arranged at a periphery of said display region, said peripheral circuits are formed on said one substrate of said pair of substrates and at least a part of said peripheral circuit are arranged in a peripheral circuits region which is held between said pair of substrates; and
at least one driver circuit for driving said peripheral circuits **bonded** at a designated region on the other substrate of said pair of substrates.	at least one driver circuit which is electrically connected to said at least one peripheral circuit for driving said at least one peripheral circuit **being arranged** outside of a region which is held between said pair of substrates.

It is clear that at least the last portion of claim 23 that claim 23 is broader than the last portion of claim 1. Therefore in view of Eggert claim 23 is outside of claim 1. A similar comparison of the circle formed by claim 1 with claims 32, 38, and 42 shows these claims are outside of the circle formed by claim 1.

6. Applicants arguments filed on 1/13/2005 concerning the 102 rejection based upon Mochizuki at pages 21-24 have been fully considered but they are not persuasive. A circuit for driving circuits 19A and 19B are required to provide the image signal in Mochizuki for the same reasons applicants image signal drive circuit 21 provides signals

to driving circuits 51 and 52. The intrinsic evidence within the Mochizuki reference teaches a source for an image is necessary. Column 4 lines 13 and 34, column 7 lines 39-40, and column 8 lines 52-53 discuss displaying a picture image on the display. Data drive circuit 19A receives pixel data from an external circuit and sends pixel data on respective column electrodes. A data drive circuit does not render or generate an image. It must receive the image from a circuit which renders or generates images. Thus, to display the picture image on Mochizuki's display then data drive circuit 19A must receive the picture image from a source external to the data drive circuit 19A. Since figures 1A, 1B, 1C, 3, 8, 12A, and 12B clearly show the data drive circuit on the lower substrate and figure 1B clearly show the upper and lower substrates having the same dimensions then the external source is arranged outside of a region which is held between the upper and lower substrates. For claims 23, 24, and 26 the intrinsic evidence within the Mochizuki reference teaches at least one driver circuit which is electrically connected to said at least one peripheral circuit for driving said at least one peripheral circuit being arranged outside of a region which is held between said pair of substrates *in order for the display to display a picture image*. For claims 32, 33, 38, 42, 46, and 47 the intrinsic evidence within the Mochizuki reference teaches at least one driver circuit, including at least one display information generating circuit, electrically connected to said at least one image signal peripheral circuit *in order for the display to display a picture image.* The argument concerning claims 32 and 38 on page 23 is not persuasive. Mochizuki teaches the claimed switch matrix because the transistors switch appropriate pixel data signals onto the appropriate column electrode. The

argument concerning claim 42 on page 24 is not persuasive. Generating clock pulses and image signals is inherent *in order for the display to display a picture image*. In order to synchronize the data drive circuit's operation and the scan drive circuit's operation to incoming pixel data a clock signal is necessary. The claimed "only one driver circuit" is actually a very broad statement. A circuit is made of many circuit elements, thus, a driver circuit is formed of many elements. Therefore, the circuit inherently present in Mochizuki may be termed "only one driver circuit" or may be termed "only one driver circuit formed of many circuit elements" or may be termed "only one driver circuit formed of many driver sub-circuits".

7. Applicants arguments filed on 1/13/2005 concerning the 102 rejection based upon Misawa et al. at pages 24-27 have been fully considered but they are not persuasive. The argument concerning claim 23 is incorrect because claim 23 claims a peripheral circuit having a plurality of semiconductor elements and at least a part of the peripheral circuit is arranged in a region which is held between the pair of substrates. Driver circuit 12 has a plurality of semiconductor elements and has a part located arranged in a region which is held between the pair of substrates. Column 4 lines 53-57 discusses TFTs in the driver circuit 12. Column 11 lines 30-32 describes the source lines of the source driver circuit 160 as running between the top and bottom panel 160, thus, Misawa teaches a portion of the driver circuit is held between the pair of substrates forming panel 160. The argument concerning claim 32 is incorrect because

claim 32 claims "an image signal peripheral circuit which comprises a switch matrix circuit connected to said display region on one substrate of said pair of substrates". As discussed for claim 23 Misawa teaches a peripheral circuit (driver circuit 12) that has TFT switches in at least a one dimensional matrix. Column 4 lines 53-57 discusses TFTs in the driver circuit 12. Therefore the examiners position is not contrary to that which is disclosed by Misawa. The argument concerning claim 38 is incorrect because claim 38 claims "at least one image signal peripheral circuit having a switch matrix circuit connected to said display region; and at least one driver circuit, including at least one display information generating circuit, electrically connected to said at least one image signal peripheral circuit." As discussed for claim 23 Misawa teaches a peripheral circuit (driver circuit 12) that has TFT switches in at least a one dimensional matrix. Column 4 lines 53-57 discusses TFTs in the driver circuit 12. In addition the source of clock signals (CLX, DX, CLY) and video signals (V1, V2, and V3) includes at least one display information generating circuit to generate the clock signals (CLX, DX, CLY) and video signals (V1, V2, and V3).

Recapture

16. Claims 23-45 and 47 are rejected under 35 U.S.C. 251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based. See *Hester Industries, Inc.* v. *Stein, Inc.*, 142 F.3d 1472, 46 USPQ2d 1641 (Fed. Cir. 1998); *In re Clement,* 131 F.3d 1464,

45 USPQ2d 1161 (Fed. Cir. 1997); *Ball Corp.* v. *United States*, 729 F.2d 1429, 1436, 221 USPQ 289, 295 (Fed. Cir. 1984). A broadening aspect is present in the reissue which was not present in the application for patent. The record of the application for the patent shows that the broadening aspect (in the reissue) relates to subject matter that applicant previously surrendered during the prosecution of the application. Accordingly, the narrow scope of the claims in the patent was not an error within the meaning of 35 U.S.C. 251, and the broader scope surrendered in the application for the patent cannot be recaptured by the filing of the present reissue application.

Using the three step test it is seen recapture has occurred. The steps are as follows: Step 1. Determine whether, and in what aspect(s), the reissue claims are broader than the patent claim. Step 2. Determine whether the broader aspect(s) of the reissued claims relate to surrendered subject matter. Step 3. Determine whether the reissued claims were materially narrowed in other respects to avoid the recapture rule. Pannu, 258 F.3d at 1371, 59 USPQ2d 1600. Ex parte Eggert, 67 USPQ2d 1716 (Bd. Pat. App. & Int. 2003).

Claims 23-31 and 47:

Claim 23 differs from patented claim 1 in a matter germane to the allowance of patented claim 1 as follows: applicant replaced lines 8-20 of patented claim 1 with lines 7-14 of pending claim 23 which does not have the limitations argued by applicant in the sentence spanning pages 10 and 11 and the second sentence on page 11, lines 8-11

and on page 12 second paragraph to page 13 last paragraph of the patent application's 11/7/97 amendment. Reissue claim 23 is broader than patented claim 1 because in claim 23 the driver circuit is arranged outside of a region which is held between said pair of substrates. The broadened portion of claim 23 corresponds to surrendered subject matter because patented claim 1 was amended to claim the driver circuit to be formed on one substrate of said pair of substrates in a driver integrated circuit region which is not held between said pair of substrates in order to overcome the prior art of record. Reissue claim 23 was not materially narrowed in the area of surrender because claim 23 places the driver circuit at any location other than between the substrates and patented claim 1 formed the driver circuit on one of the pair of substrates. The currently claimed location of the driver circuit is very broad. Thus, this replacement limitation of broadened claim 23 does not relate to the limitation added to patented claim 1 to define over the prior art of record. Thus, the reason for allowing patented claim 1 is not present in pending claim 23. The omitted limitation of *formed on a substrate* was replaced with *electrically connected*. *Electrically connected* is not related to *formed on a substrate* and *electrically connected* is not a broader version of *formed on a substrate* because the latter gives a specific location where the driver circuit is placed while the former does not tell where the driver circuit is placed.

Claim 23 differs from patented claim 22 in a matter germane to the allowance of patented claim 22 as follows: applicant replaced lines 7-23 of patented claim 22 with lines 7-14 of pending claim 23 which does not have the limitations argued by applicant as being allowable on page 6 of the patent application's 11/7/97 amendment. On page

6 applicant wrote "Thus, applicants submit that claim 24 corresponding to claim 19 written in independent form should now be in condition for allowance". In the original patent application's first office action the examiner indicated that claim 19/2/1 would be allowable in rewritten in independent form. The original Patent application's claim 24 (now patented claim 22) has all of the limitations of claim 19/2/1. Patented claim 22 has the limitation of claims 2 and 19 at lines 7-23. The broadened portion of claim 23 corresponds to surrendered subject matter because lines 13-23 of patented claim 22 are not present in broadened claim 23. The replacement limitations of broadened claim 23 do not relate to the limitations added to patented claim 22 to define over the prior art of record. Thus, the reason for allowing patented claim 22 is not present in pending claim 23. The limitations found in patented claim 22 which led to its allowance are not found in the currently pending claim 23. The limitations replacing the omitted limitations are not related to the omitted limitations and they are not broader versions of the omitted limitations.

Claim 24 fails to claim a subject matter to the allowance of patented claim 1 for the reasons given for parent claim 23 and because it claims that the "driver circuit is separate from said pair of substrates". Patented claims 1 and 22 claimed the driver circuit is either formed (claim 1) or bonded (claim 22) on at least one substrate.

Claim 25-31 and 47 similarly do not add to claim 23 the claim limitations related to the surrendered limitations that were added to the patented claims to overcome the prior art of record.

Claims 32-37:

Claim 32 differs from patented claim 1 in a matter germane to the allowance of patented claim 1 as follows: applicant replaced lines 8-20 of patented claim 1 with lines 7-10 of pending claim 32. The replaced lines do not have the limitations argued by applicant in the sentence spanning pages 10 and 11 and the second sentence on page 11, lines 8-11 and on page 12 second paragraph to page 13 last paragraph of the patent application's 11/7/97 amendment. Thus, these replacement limitations of broadened claim 32 do not relate to the limitations added to patented claim 1 to define over the prior art of record. Thus, the reason for allowing patented claim 1 is not present in pending claim 32. The omitted limitation of *formed on a substrate* was replaced with *electrically connected. Electrically connected* is not related to *formed on a substrate* and *electrically connected* is not a broader version of *formed on a substrate* because the latter gives a specific location where the driver circuit is placed while the former does not tell where the driver circuit is placed.

Claim 32 differs from patented claim 22 in a matter germane to the allowance of patented claim 22 as follows: applicant replaced lines 7-23 of patented claim 22 with lines 7-10 of pending claim 32 which does not have the limitations argued by applicant as being allowable on page 6 of the patent application's 11/7/97 amendment. On page 6 applicant wrote "Thus, applicants submit that claim 24 corresponding to claim 19 written in independent form should now be in condition for allowance". In the original patent application's first office action the examiner indicated that claim 19/2/1 would be

allowable in rewritten in independent form. The original Patent application's claim 24 (now patented claim 22) has all of the limitations of claim 19/2/1. Patented claim 22 has the limitation of claims 2 and 19 at lines 7-23. The broadened portion of claim 32 corresponds to surrendered subject matter because lines 13-23 of patented claim 22 are not present in broadened claim 32. The replacement limitations of broadened claim 32 do not relate to the limitations added to patented claim 22 to define over the prior art of record. Thus, the reason for allowing patented claim 22 is not present in pending claim 32. The limitations found in patented claim 22 which led to its allowance are not found in currently pending claim 32. The limitations replacing the omitted limitations are not related to the omitted limitations and they are not broader versions of the omitted limitations.

Claims 33-37 do not add to claim 32 the claim limitations related to the surrendered limitations that were added to the patented claims to overcome the prior art of record.

Claims 38-41:

Claim 38 differs from patented claim 1 in a matter germane to the allowance of patented claim 1 as follows: applicant replaced lines 8-20 of patented claim 1 with lines 7-10 of pending claim 38. The replaced lines do not have the limitations argued by applicant in the sentence spanning pages 10 and 11 and the second sentence on page 11, lines 8-11 and on page 12 second paragraph to page 13 last paragraph of the

patent application's 11/7/97 amendment. Thus, these replacement limitations of broadened claim 38 do not relate to the limitations added to patented claim 1 to define over the prior art of record. Thus, the reason for allowing patented claim 1 is not present in pending claim 38. The omitted limitation of *formed on a substrate* was replaced with *electrically connected. Electrically connected* is not related to *formed on a substrate* and *electrically connected* is not a broader version of *formed on a substrate* because the latter gives a specific location where the driver circuit is placed while the former does not tell where the driver circuit is placed.

Claim 38 differs from patented claim 22 in a matter germane to the allowance of patented claim 22 as follows: applicant replaced lines 7-23 of patented claim 22 with lines 7-10 of pending claim 38 which does not have the limitations argued by applicant as being allowable on page 6 of the patent application's 11/7/97 amendment. On page 6 applicant wrote "Thus, applicants submit that claim 24 corresponding to claim 19 written in independent form should now be in condition for allowance". In the original patent application's first office action the examiner indicated that claim 19/2/1 would be allowable in rewritten in independent form. The original Patent application's claim 24 (now patented claim 22 has all of the limitations of claim 19/2/1. Patented claim 22 has the limitation of claims 2 and 19 at lines 7-23. The broadened portion of claim 38 corresponds to surrendered subject matter because lines 13-23 of patented claim 22 are not present in broadened claim 38. The replacement limitations of broadened claim 38 do not relate to the limitations added to patented claim 22 to define over the prior art of record. Thus, the reason for allowing patented claim 22 is not present in pending

claim 38. The limitations found in patented claim 22 which led to its allowance are not found in currently pending claim 38. The limitations replacing the omitted limitations are not related to the omitted limitations and they are not broader versions of the omitted limitations.

Claims 39-40 do not add to claim 38 the claim limitations related to the surrendered limitations that were added to the patented claims to overcome the prior art of record.

Claims 42-45:

Claim 42 differs from patented claim 1 in a matter germane to the allowance of patented claim 1 as follows: applicant replaced lines 8-20 of patented claim 1 with lines 7-10 of pending claim 42: The replaced lines do not have the limitations argued by applicant in the sentence spanning pages 10 and 11 and the second sentence on page 11, lines 8-11 and on page 12 second paragraph to page 13 last paragraph of the patent application's 11/7/97 amendment. Thus, these replacement limitations of broadened claim 42 do not relate to the limitations added to patented claim 1 to define over the prior art of record. Thus, the reason for allowing patented claim 1 is not present in pending claim 42.

Claim 42 differs from patented claim 22 in a matter germane to the allowance of patented claim 22 as follows: applicant replaced lines 7-23 of patented claim 22 with lines 7-10 of pending claim 42. The replaced lines do not have the limitations argued

by applicant as being allowable on page 6 of the patent application's 11/7/97 amendment. On page 6 applicant wrote "Thus, applicants submit that claim 24 corresponding to claim 19 written in independent form should now be in condition for allowance". In the original patent application's first office action the examiner indicated that claim 19/2/1 would be allowable in rewritten in independent form. Claim 24 has all of the limitations of claim 19/2/1. Patented claim 22 has the limitation of claims 2 and 19 at lines 7-23. The broadened portion of claim 42 corresponds to surrendered subject matter because lines 13-23 of patented claim 22 are not present in broadened claim 42. The replacement limitations of broadened claim 42 do not relate to the limitations added to patented claim 22 to define over the prior art of record. Thus, the reason for allowing patented claim 22 is not present in pending claim 42. The limitations found in patented claim 22 which led to its allowance are not found in currently pending claim 42. The limitations replacing the omitted limitations are not related to the omitted limitations and they are not broader versions of the omitted limitations.

Claims 43-45 do not add to claim 42 the claim limitations related to the surrendered limitations that were added to the patented claims to overcome the prior art of record.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 23-27, 32-34, 38, 39, 42, 43, and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Mochizuki et al U.S. Patent No. 5,247,375. Mochizuki teaches display area transistors and peripheral circuit transistors. Inherently Mochizuki teaches a driving circuit on a substrate external to the display substrate.

The following side by side analysis of claim 23 and Mochizuki illustrates how Mochizuki anticipates applicant's claims.

Pending claim 23	Mochizuki et al U.S. Patent No. 5,247,375
23. A liquid crystal display apparatus comprising:	Figures 1A and 1B.
a pair of substrates, at least one of which is transparent;	Lower glass substrate 10A and upper glass substrate 10B. Also note column 5 lines 33-35.

a liquid crystal layer formed by sandwiching a liquid crystal composition between said pair of substrates;	The liquid crystal material 14 is sandwiched between the two substrates as seen in figure 9.
a display region having a plurality of first semiconductor elements which are arranged in a matrix on one substrate of said pair of substrates;	Figure 1B.
at least one peripheral circuit having a plurality of second semiconductor elements arranged at a periphery of said display region, said at least one peripheral circuit being formed on said one substrate of said pair of substrates and at least one part of said at least one peripheral circuit being arranged in a peripheral circuit region which is held between said pair of substrates; and	Figure 1B illustrates data drive circuit area 19A and scan drive circuit 19B between both of the glass substrates.
at least one driver circuit which is electrically connected to said at least one peripheral circuit for driving said at least one peripheral circuit being arranged outside of a region which is held between said pair of substrates.	Inherently Mochizuki teaches a driving circuit on a substrate external to the display substrate for providing signals to the data drive circuit area 19A and scan drive circuit 19B.

Claim 24:

The driver circuit of Mochizuki is on one substrate, thus, it is separate from said pair of substrates.

Claims 25 and 27:

Claims 25 and 27 claim annealing a portion which is taught at column 9 lines 28-47 and column 10 line 53 which refers to laser annealing of the driver circuit being different than the laser annealing of the scanning circuit described in the preceding description at column 9 line 41 to column 10 line 50.

Claim 26:

Liquid crystals are generally driven with amplitudes no greater than about 5V.

Claim 32:

This claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by drive circuit 13 illustrated in figure 1B as a switch matrix.

Claim 33:

Scanning circuit 12 is shown in Figure 1A as being formed on one substrate of the pair of substrates.

Claim 34:

Claim 34 claims annealing a portion which is taught at column 9 lines 28-47 and column 10 line 53 which refers to laser annealing of the driver circuit being different than

the laser annealing of the scanning circuit described in the preceding description at column 9 line 41 to column 10 line 50.

Claim 38:

This claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by drive circuit 13 illustrated in figure 1B as a switch matrix. The display information generating circuit is inherent.

Claim 39:

Claim 39 claims annealing a portion which is taught at column 9 lines 28-47 and column 10 line 53 which refers to laser annealing of the driver circuit being different than the laser annealing of the scanning circuit described in the preceding description at column 9 line 41 to column 10 line 50.

Claim 42:

This claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by drive circuit 13 illustrated in figure 1B as a switch matrix. Generating clock pulses and image signals is inherent.

Claim 43:

Claim 43 claims annealing a portion which is taught at column 9 lines 28-47 and column 10 line 53 which refers to laser annealing of the driver circuit being different than the laser annealing of the scanning circuit described in the preceding description at column 9 line 41 to column 10 line 50.

Claim 47:

Liquid crystals are generally driven with amplitudes no greater than about 3V.

10. Claims 23, 24, 26, 32, 33, 38, 42, and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Misawa et al U.S. Patent No. 5,250,931. Misawa teaches display area transistors and peripheral circuit transistors. Inherently Misawa teaches a driving circuit on a substrate external to the display substrate.

The following side by side analysis of claim 23 and Misawa illustrates how Misawa anticipates applicant's claims.

Pending claim 23	Misawa et al U.S. Patent No. 5,250,931
23. A liquid crystal display apparatus comprising:	Column 4 lines 4-10.
a pair of substrates, at least one of which is transparent;	Figure 3B, transparent substrate 98 and substrate 86. Column 7 lines 5-8.
a liquid crystal layer formed by sandwiching a liquid crystal composition between said pair of substrates;	The liquid crystal material 96 is sandwiched between the two substrates as seen in figure 3B. Column 7 lines 5-8.

a display region having a plurality of first semiconductor elements which are arranged in a matrix on one substrate of said pair of substrates;	Figure 1B.
at least one peripheral circuit having a plurality of second semiconductor elements arranged at a periphery of said display region, said at least one peripheral circuit being formed on said one substrate of said pair of substrates and at least one part of said at least one peripheral circuit being arranged in a peripheral circuit region which is held between said pair of substrates; and	Column 11 lines 30-32 describes the source lines of the source driver circuit 160 as running between the top and bottom panel 160, thus, Misawa teaches a portion of the driver circuit is held between the pair of substrates forming panel 160.
at least one driver circuit which is electrically connected to said at least one peripheral circuit for driving said at least one peripheral circuit add being arranged outside of a region which is held between said pair of substrates.	Inherently Misawa teaches a driving circuit for driving the source line driver 12 and gate line driver 21, see figure 1 which illustrates where the driving circuit connects the source line driver and gate line driver at input terminals 34, 35, 36, 37 and 38. Column 5 lines 5-13.

Claim 24:

The driver circuit of Misawa is on one substrate, thus, it is separate from said pair of substrates.

Claim 26:

Liquid crystals are generally driven with amplitudes no greater than about 5V.

Claim 32:

This claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by the switches 17-19 of source line driver 12 illustrated in figure 1 as a switch matrix.

Claim 33:

The source line driver circuit 12 of Misawa is on one substrate, thus, it is separate from said pair of substrates.

Claim 38:

This claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by source line driver 12 illustrated in figure 1 as a switch matrix. The display information generating circuit is inherent to produce video signals V1, V2, V3, column 5 line 9.

Claim 42:

This claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by source line driver 12 illustrated in figure 1 as a switch matrix. Misawa's driver circuit produces clock pulses, taught at column 5 line 7, and image signals, taught at column 5 line 9.

Claim 47:

Liquid crystals are generally driven with amplitudes no greater than about 3V.

Reissue Oath/Declaration

11. The reissue oath/declaration filed with this application is defective (see 37 CFR 1.63, 1.175 and MPEP § 1414) because of the following:

A) The reissue declaration filed on 9/28/2001 does not identify the foreign application on which foreign priority is being claimed. 37 CFR 1.63(c)(2).

B) This reissue declaration does not cover the errors corrected by the amendments that have been made since the reissue declaration was filed as required by 1.175(b). Applicant must submit a supplemental oath or declaration stating *that every such error arose without any deceptive intention on the part of the applicant*. Any supplemental oath or declaration required by this paragraph must be submitted before allowance and may be submitted: (i) With any amendment prior to allowance; or (ii) In order to overcome a rejection under **35 U.S.C. 251** made by the examiner where it is indicated that the submission of a supplemental oath or declaration as required by this paragraph will overcome the rejection.

C) Any amendments made in response to this office action to the patented claims and to the newly presented claims will be an error. This error and any previous errors will need to be covered by a substitute reissue declaration.

12. Claims 23-45 and 47-69 are rejected as being based upon a defective reissue declaration under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

The nature of the defect(s) in the reissue declaration is set forth in the discussion of the reissue declaration set forth above in this Office action.

APPENDIX A

On the next page is claim 1 from 08/507,990 filed in the preliminary amendment filed on 9/8/95.

1. (amended) A liquid crystal display apparatus, comprising[;]:

a pair of substrates, at least one of which is transparent[,]:

a liquid crystal layer formed by enclosing a liquid crystal composition between said pair of [the] substrates[, wherein];

a display region, having a plurality of first semiconductor elements which are arranged in a matrix[, and] is formed on a substrate;

a peripheral circuits region having a plurality of second semiconductor elements for driving said plurality of first semiconductor elements, arranged at a periphery of said display region, are formed on [the] said one substrate of said pair of substrates[,]; and

at least one driver [circuits] circuit for driving said peripheral circuits [are] bonded at a designated region on the other substrate of said pair of substrates.

3. (amended) A liquid crystal display apparatus as claimed in claim 2, wherein

said thin film [transistor] transistors at the display region [has] have a mobility in a range of 1 cm^2/Vs to 5 cm^2/Vs[,];

said thin film [transistor] transistors at the peripheral circuits region [has] have a mobility in a range from 10 cm^2/Vs to 30 cm^2/Vs[,]; and

APPENDIX B

On the next three pages are claims 22 and 24 from 08/507,990 filed in the amendment filed on 11/07/1997 which overcame the prior art rejection.

Claim 16, line 2, delete "1" and insert --22--.

Claim 17, line 2, delete "1" and insert --22--.

Claim 18, line 2, delete "1" and insert --22--.

Claim 21, line 2, delete "1" and insert --22--.

Please add the following new claims:

--28. A liquid crystal display apparatus, comprising:

a pair of substrates, at least one of which is transparent;

a liquid crystal layer formed by enclosing a liquid crystal composition between said pair of substrates;

a display region having a plurality of first semiconductor elements which are arranged in a matrix on one substrate of said pair of substrates;

peripheral circuits having a plurality of second semiconductor elements for driving said plurality of first semiconductor elements, arranged at a periphery of said display region, said peripheral circuits are formed on said one substrate of said pair of substrates and at least a part of said peripheral circuit are arranged in a peripheral circuits region which is held between said pair of substrates; and

at least one driver circuit which is an integrated circuit for driving said peripheral circuits is formed on said one substrate of said pair of substrates in a driver integrated circuit region which is not held between said pair of substrates.

23. A liquid crystal display apparatus according to claim 22, wherein another part of said peripheral circuits is arranged in said driver integrated circuit region which is not held between said pair of substrates.

24. A liquid crystal display apparatus comprising:

a pair of substrates, at least one of which is transparent;

a liquid crystal layer formed by enclosing a liquid crystal composition between said pair of substrates;

a display region, having a plurality of first semiconductor elements which are arranged in a matrix is formed on one substrate;

a peripheral circuits region having a plurality of second semiconductor elements for driving said plurality of first semiconductor elements, arranged at a periphery of said display region, are formed on said one substrate of said pair of substrates;

at least one driver circuit for driving said peripheral circuits bonded at a designated region on said one substrate of said pair of substrates;

wherein said first and second semiconductor elements are thin film transistors; and

the thin film transistors at said display region have a switching time in a range from 30 μs to 60 μs;

the thin film transistors at said peripheral circuit region have a switching time in a range of 3 μs to 12 μs; and

said driver circuit has a transistor having a switching time in a range from 0.01 μs to 0.03 μs.

25. A liquid crystal display apparatus comprising:

a pair of substrates, at least one of which is transparent;

a liquid crystal layer formed by enclosing a liquid crystal composition between said pair of substrates;

a display region, having a plurality of first semiconductor elements which are arranged in a matrix is formed on one substrate;

a peripheral circuits region having a plurality of second semiconductor elements for driving said plurality of first semiconductor elements, arranged at a periphery of said display region, are formed on said one substrate of said pair of substrates;

at least one driver circuit for driving said peripheral circuits bonded at a designated region on said one substrate of said pair of substrates;

wherein said first and second semiconductor elements are thin film transistors; and

the thin film transistors at said display region have a switching time in a range from 16 μs to 30 μs;

the thin film transistors at said peripheral circuit region have a switching time in a range of 1.6 μs to 6 μs; and

said driver circuit has a transistor having a switching time in a range from 0.01 μs to 0.03 μs.--

13. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A Brier whose telephone number is 703-305-4723 until the move and after the move the telephone number will be 571-272-7656. The examiner can normally be reached on M-F from 6:30 to 3:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael

Razavi, can be reached at (703) 305-4713). The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeffery A Brier
Primary Examiner
Art Unit 2672